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STIPULATIONS OF THE INTERNATIONAL TELECOMMUNICATIONS AGREEMENT CONCERNING MILITARY RADIO STATIONS

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I. Introduction

For purposes of the following analysis, the term "military radio stations" is to refer to those radio stations which serve the national defense. As far as radio stations of this type are concerned, the IFV [Internationaler Fernmeldevertrag; International Telecommunications Agreement] 1), in Chapter V ("Special Stipulations for Radio Service"), contains Article 46 which reads as follows:

1. The Ordinary as well as the Extraordinary Members retain their full freedom with respect to the military radio installations of their land, sea, and air forces.

2. It is, however, essential that - as far as such installations are concerned - those conditions be observed which refer to assistance in cases of emergency and to measures devised to avoid harmful interference, as well as the conditions of the Regulatory Statutes which deal with the manner of transmission and frequencies to be determined by the type of service used.

3. If such installations participate in the service for public use or in other types of service covered by the Regulatory Statutes pertaining to this agreement, it is also necessary that they be in conformity with the regulations covering the use of such services.

The practical application of these stipulations has resulted in certain difficulties, due to the fact that the wording of said stipulations does not clearly indicate the extent to which the

rights and obligations of military radio stations differnfrom those of other radio stations. In applying the IFV, doubts may also arise due to the fact that one of the principal articles of the IFV - namely Article 45 ("Harmful Interference") - stipulates that "all radio stations ... - independent of their intended use - must be built and operated in such a way that they will not cause any harmful interference ..." [2]. This wording might lead to the conclusion that military radio stations are validly bound by these stipulations of Article 45. Article 19, paragraph 1 ("Execution of the Agreement and its Regulatory Statutes"), however, expressly exempts military radio stations from the international arrangement [3].

No further regulations concerning military radio stations are contained in the Buenos Aires Agreement. Commentaries referring to the IFV - and especially to Article 48 - have not yet been issued. The documents relating to the government conference at Buenos Aires do not offer any clarification with respect to the aforementioned doubts. An attempt will, therefore, be made to gain some elucidative information about the significance of Article 48 from the history of its origin, i.e. from the corresponding stipulations of earlier international radio agreements.

II. History of the origin of Article 48

The first international radio agreement was concluded during the preliminary conference held in Berlin in 1903 [4]. With respect to military radio stations, it contained the following stipulations in Article VII:

> "The stipulations of the agreement to be concluded - except for the stipulations embodied in Articles IV and V - do not apply to those wireless telegraph stations of the government which are not available for general use."

The aforementioned articles IV and V read as follows:

> (IV) The wireless telegraph stations - except in cases where they are materially unable to do so - are to give priority to requests for assistance received from ships.
>
> (V) The operation of wireless telegraph stations is, if possible, to be arranged in such a way that it does not interfere with the operation of other stations.

In 1903, the only radio stations "not available for general use" were those of the Navy. According to the aforementioned agreement concluded during the preliminary conference, said stations

were, thus, to be subject to only two - although fundamental - stipulations; participation in emergency communications and avoidance of interference. These two stipulations apply equally to military radio stations and to other radio stations.

As is well known, the preliminary conference 5) was convened because of the fact that seagoing vessels equipped with Marconi radio installations refused to maintain contact with other maritime radio stations (it was at this time that the German industry began to equip seagoing vessels with German-made radio units). It was the main goal of the preliminary conference to stipulate the duty of communication 6), irrespective of the type of radio installation. At the same time, rate problems were settled, regulations regarding emergency communications and interference were worked out, and it was agreed upon that the participating administrations would exchange among each other data concerning the technical characteristics of their radio installations.

In 1906, this preliminary conference was followed by the Berlin Radio Conference which led to the conclusion of the International Radio Telegraphy Agreement of 3 November 1906 7). This agreement was signed by 15 nations. Military radio stations are dealt with in Article 21 which reads as follows:

> " The signatories retain absolute freedom with respect to radio-telegraphic installations not provided for in Article 1, particularly with respect to Navy and Army installations; said installations are subject to the provisions outlined in Articles 8 and 9 of this agreement.
>
> If, however, these installations participate in public communications, they are to comply - in carrying out this service - with the provisions of the Regulatory Statutes, as far as manner of transmission and accounting are concerned."

Articles 8 and 9, heretofore referred to, read as follows:

> "(8) The operation of the radio telegraph stations must, if possible, be arranged in such a way that it does not interfer with the operation of other similar stations.
>
> (9) The radio telegraph stations have the duty to treat distress calls from ships at sea with unqualified preference, to respond, and to adequately comply with them."

In this 1906 wording, one can already recognise the wording of the 1952 agreement referred to in the Introduction. If one takes into consideration that, in 1906, there was no commercial aviation as yet, that it was not yet possible to prescribe types of transmission since only transmission type B (damped waves) was in existence, and that the stipulations concerning frequencies were actually confined to 300 m and 600 m waves, one can already detect in this 1906 wording the corresponding content of the 1952 version. It ought to be especially noted that the principle of "absolute freedom" of military radio stations, as outlined in 1906, reappears verbatim in the 1952 version. It will be evident that the provisions concerning military radio stations have, on the whole, undergone only style changes in the course of the intervening conferences. This is surprising in view of the fact that, in 1906, radio engineering was only in the early stages of a great development which, in the subsequent five decades, resulted in an entirely changed situation. This will be discussed later in more detail.

The description of the Berlin conference [8] also contains one of the few explanations referring to the topic under discussion. According to said description,

> "the Japanese delegates proposed the inclusion of an article, according to which the provisions of the agreement would in no way apply to Army and Navy installations, since the latter - as far as both arrangement and purpose are concerned - would be completely different from the equipment used in general service; they also asked for the inclusion of a special provision, according to which it would be admissible to close any radio station for up to two hours daily for general use, if such move should be advisable in the military interest. However, both proposals were rejected, since it could be proved that, in the other provisions of the agreement, sufficient allowances had been made to satisfy all aspects of the military interest. Neither the International Radio Agreement nor the International Telegraph Agreement contain any positive provisions applicable in case of war."

The "absolute freedom" outlined in the Berlin Agreement results in invalidating the contractual stipulations (except for Articles 8 and 9) and the Regulatory Statutes (the then "Executive Order") for military radio stations. The entire agreement is now confined to the operation of coastal stations and stations on board ships. The "absolute freedom" of military radio stations seems, therefore, justified if one takes into account the type and extent of these 1906 stipulations. The question will later be examined as to whether this freedom of military stations would still be

justified if the type and extent of the international stipulations were to be considerably expanded in accordance with the advanced status of technique and operation. In other words, the extent of "freedom" will be determined by the ratio between binding rules and non-binding international rules.

The next international radio agreement was concluded in London in the year 1912. The provisions referring to military radio stations were, to a large extent, incorporated without change; now, however, the radio stations of the fixed radio service were - to a certain degree - put on an equal level with military radio stations, as far as "absolute freedom" is concerned. Article 21 of the London Agreement reads as follows:

> "The signatories retain absolute freedom with respect to radio-telegraphic installations not referred to in Article 1, particularly with respect to Army and Navy installations as well as those stations engaged in communications between fixed points. All these installations and stations are subject only to the duties stipulated in Articles 8 and 9 of the present agreement.
>
> However, if these installations and stations participate in public oversea communications, they are - as far as manner of transmission and accounting are concerned - to observe the provisions of the Regulatory Statutes in the performance of their service.
>
> If, on the other hand, coastal stations - apart from public communications with ships at sea - engage in the exchange of messages between fixed points, they are - as far as the latter service is concerned - not subject to the stipulations of the agreement, with the proviso that they must comply with Articles 8 and 9 of the agreement.
>
> The fixed stations, however, which take care of communications between two land-based stations, are not permitted to refuse the exchange of radio telegrams with another fixed station solely because of the system employed by such station; but each country retains full freedom concerning its arrangement of service between fixed points, as well as the right to determine which communications ought to be handled by the stations designated to take care of this type of service."

The long discussion which took place at the London Conference about this expansion of Article 21, and which was concluded by

way of balloting [9]), is very informative. It ought to be borne in mind that - even at the time of the London Conference - a fixed radio service was still practically nonexistent, and that the object of the London Agreement continued to be the radio traffic between coastal stations and stations on board ships. For this reason, it was pointed out during the conference - and justifiably so - that all participants were lacking in experience necessary to regulate the fixed radio service on an international basis. This discussion about the new Article 21, however, furnishes an insight into the meaning of the term "absolute freedom" - in that it was primarily looked upon as an immunity from the duty of communication, which - as mentioned before - was one of the principal goals of the 1903 international radio settlement. In the light of this discussion - i.e. with regard to the communicating duty of radio stations - the absolute freedom of military radio stations (within the limits of Articles 8 and 9) seems entirely comprehensible. In this connection, it is irrelevant that the communicating duty in the fixed radio service does not actually require any international arrangement since the international exchange of messages via fixed radio stations (as well as telegraphic communications) can - and must - for technical reasons be settled by way of bilateral agreements.

Because of the first World War, the next radio conference, which had been scheduled for the year 1917, was only held in 1927 in Washington. The International Radio Agreement concluded in the course of said conference is, on the whole, essentially different from the London Agreement. This is primarily due to the rapid development of radio engineering during the intervening years as well as to its greater field of application. Nevertheless, the provisions concerning military radio stations were taken over from the London Agreement without any essential changes; fixed radio stations, however, are no longer mentioned in connection with military radio stations which are dealt with in Article 22 of the Washington Agreement. Article 22 reads as follows:

"Radio Installations of the Army and Navy

Par. 1. The contracting governments retain their full freedom with respect to the radio installations not listed in Article 2, especially those of the Army and the Navy.

Par. 2. As far as possible, all these installations and radio stations ought to observe the provisions of the Regulatory Statutes referring to assistance in cases of emergency and to measures for the avoidance of interference. In addition, depending upon the type of service

they perform, they must - as far as possible - comply with the provisions of the Regulatory Statutes referring to the types and frequencies of waves to be utilized.

Par. 3. If these installations and radio stations, however, participate in public communications or in those special services regulated in the Regulatory Statutes of this Agreement, they are generally required - in performing these services - to observe the provisions of the Regulatory Statutes."

This Article 22 of the 1927 International Radio Agreement of Washington is already so similar - in the letter as well as in the spirit of the stipulation - to Article 48 of the International Telecommunications Agreement of Buenos Aires, as concluded in 1952, that we may well dispense with quoting the similar versions of the intervening agreements of Madrid (1932) and Atlantic City (1947). The insignificant differences in wording are of no importance for the question here under discussion and are solely due to changes in the organization of the international telecommunications system (e.g., combining the International Telegraphy Agreement with the International Radio Agreement to form the International Telecommunications Agreement, as well as other changes of a similar nature).

The following can be gathered from the aforementioned history of origin:

1. The principle of the "absolute freedom" of military radio stations, which was first laid down in the year 1906, has retained its validity in the intervening period of 46 years. There is reason to assume that, when this principle was first formulated in 1906, it was the primary goal to stipulate "immunity from the communicating duty."

2. The obligation of military radio stations to comply with the provisions concerning assistance in emergencies and concerning the avoidance of interference has - in the period between 1906 and 1952 - undergone only the following changes:

The 1906 agreement embodies a binding obligation for military radio stations to comply with Article 8 (Interference) and Article 9 (Emergencies). The 1952 agreement - as well as all other agreements concluded since 1927 - stipulates, on the other hand, that the pertinent provisions ought to be complied with "if possible." In this respect, the 1952 agreement amplifies the freedom of military radio stations, as compared with agreements concluded prior to 1927.

3. The duty of military radio stations to observe international regulations, whenever they participate in public communications, has remained essentially unchanged since 1906. The insertion of the words "in general", which first occurred in the 1927 agreement, slightly lessened this obligation, as compared with earlier agreements.

4. In accordance with the development of radio techniques and the wider distribution of radio communications, military radio stations - ever since 1927 - have been bound by the provisions relating to "Types and Frequencies of Waves to be Utilized", a fact which is evidenced in the 1952 agreement by the formulation "manners of transmissions and frequencies to be employed depending upon the service to be performed." In this connection, it ought to be noted that the Washington Agreement, in introducing a partitioning into frequency ranges, also provided - for the first time - for spheres of "mobile, non-public services" which, thus, were to be reserved for military radio stations, and that such spheres of non-public services have no longer been provided for since 1947 (Atlantic City).

III. Interpretation of Article 48

Due to the fact that the short recapitulation of the history of origin of Article 48 does not unequivocally answer the question here under discussion, it will now be attempted to ascertain the possible interpretations of Article 48 through an analysis of the wording.

1. The first paragraph of Article 48, if considered independently, does not require any interpretation. The "absolute freedom" of the members, as far as military radio stations are concerned, can only mean that the members are not bound, with respect to these radio stations, by the provisions of the IFV and the VO Funk /Vollzugsordnung Funk; Regulatory Radio Statutes/, and that said provisions, therefore, are not applicable to military radio stations. This implies that military radio stations are not subject to any international stipulations.

2. The second paragraph of Article 48 limits, to a certain extent, the freedom of military radio stations, which the first paragraph established as a general principle. More particularly, military radio stations - "as far as possible" - are subject to:

a) the "provisions concerning assistance in cases of emergency";

b) the "provisions concerning measures for the avoidance of harmful interference";

c) the "provisions of the Regulatory Statutes concerning the types and frequencies of waves to be utilized, depending upon the type of service performed".

This obligation to comply with the three aforementioned conditions - a) to c) - is not stringent, as is evidenced by the inclusion of the words "as far as possible." Thus, the concept of assessing the possibility of compliance is interpolated. In this connection, therefore, the aforementioned second paragraph bestows upon Article 48 the characteristics of a (strong) recommendation.

As to a): "Provisions concerning assistance in cases of emergency" are contained in Article 46 of the IFV as well as in the VO Funk. Article 46 of the IFV establishes, in principle, the absolute preference of distress calls and emergency reports [10]. This is the only stipulation in the IFV dealing with emergency communications. Such emergency communications are, however, more fully dealt with in the VO Funk; the pertinent provisions are partially combined in special chapters and partially scattered among other provisions. Without any claim to completeness, the following provisions of the VO Funk can here be cited[11]:

Nos. 714-719 ("Cases of emergency")

Nos. 813-818 ("Call, reply, and emergencies")

Nos. 860-949 (Chapter XIV: "Cases of emergency. Distress signals, urgency signals, and safety signals").

As to b): The "provisions concerning measures for the avoidance of harmful interference" are less definite. The pertinent provisions are contained in Article 45 of the IFV as well as in many sections of the VO Funk.

In its first paragraph, Article 45 requires that all radio stations - "irrespective of their intended use" - avoid harmful interference. As previously mentioned, the application of this provision to military radio stations would be in contradiction to Article 19, first paragraph, which exempts military radio stations from the contractual settlement. It must, therefore, be assumed that the "provisions concerning measures for the avoidance of harmful interference" refer only to the pertinent provisions of the VO Funk. This also seems to be in accordance with the French wording of the agreement, on the basis of which the "dispositions réglementaires"

are made binding; this, according to the terminology customarily used in the IFV, means the "provisions of the Regulatory Statutes."

It is extremely difficult to determine which provisions of the VO Funk ought to be cited in this connection. For it is one of the primary functions of practically all VO Funk provisions to avoid harmful interference. It, thus, seems advisable to start by referring to those VO Funk provisions which - either by virtue of their heading or by virtue of their wording - have the definite and direct function of avoiding such interference. In this connection, it ought to be noted that the provisions concerning types of transmission and frequencies, which are listed under c), also primarily serve the same purpose and that, therefore, a separation of the b) and c) cases seems arbitrary and difficult. Nevertheless, only those provisions will be quoted here which, most probably, will not be covered by section c). Thus, at least the following VO Funk provisions ought to be mentioned in this connection:

Nos. 372-376 ("Disturbances of a general nature")

Nos. 378-379 ("Special cases of disturbances")

Nos. 380-382 ("Experimental transmissions")

Nos. 386-391 ("Procedures in case of disturbances")

No. 576 ("Radiation of receivers")

Nos. 609-614 ("Introductory measures")

In addition, VO Funk contains numerous other provisions which, indirectly, work towards avoiding harmful disturbances. Article 17 (Nos. 397-400), for instance, stipulates with respect to the "Quality of Transmissions" that the radio stations are required to observe certain frequency tolerances, and that the band width, the energy of the harmonic, and abnormal radiations must be kept at a low level, in accordance with the existing technological status. These provisions have, undoubtedly, the goal of avoiding harmful interference. It is a question of interpretation, however, whether these provisions - in accordance with Article 48, second paragraph, of the IFV - also apply to military radio stations.

As another example, we might quote the provisions of Chapter XI of VO Funk (Nos. 493-555). They deal with the certificates of radio operators at ship stations or aircraft stations; they, too, serve the purpose of assuring the avoidance of harmful interference by means of orderly servicing of the radio equipment. As far as the

application of the provisions regarding "Inspection of Mobile Radio Stations" is concerned, which are also contained in said Chapter, it is to be expected that they will raise special doubts among the member nations of the UIT [Union Internationale de Télécommunications; International Telecommunications Union].

The above examples are intended to show that this section of the second paragraph of IFV Article 48 leaves ample room for interpretation.

As to c): The "provisions of the Regulatory Statutes concerning the types and frequencies of waves to be utilized, depending upon the type of service performed" occupy a large portion of the Regulatory Radio Statutes and constitute the basis for international cooperation in the radio field. In this connection, it ought to be pointed out that these provisions serve two different purposes: on one hand, it is their goal to avoid - or, at least, limit to a large extent - mutual interference; on the other hand, it is their purpose to stipulate common international traffic routes (channels) for the mutual exchange of communications. This latter purpose was served by the first wave agreements (e.g. emergency sea wave and others). It was only later that one recognized the practicability of reducing harmful interference by allocating certain frequency ranges to the different services.

The provisions concerning types of transmission and frequencies are contained in the following sections of VO Funk:

Nos. 86-283 (Chapter III "Frequencies")

Nos. 568-572 ("Aircraft and aeronautical stations")

Nos. 573-580 ("Demands upon mobile radio stations")

Nos. 581-597 ("Ship stations")

Nos. 598-599 ("Aircraft stations")

Nos. 600-601 ("Lifeboats etc.")

Nos. 711-712 ("Limitations")

Nos. 714-719 ("Emergencies")

As mentioned above under b), it is doubtful in this case as well whether any other provisions - and if so, which - are applicable. For instance, the entire Article 33 of VO Funk (Nos. 711-803) deals with "frequencies in the telegraphic ship radio service and

in the mobile telegraphic aircraft radio service", without in any way confining said provisions to the public exchange of communications. In the same manner, Article 34 (Nos. 804-834) deals with "radiotelephony in the ship radio service", without confining said provisions to the public exchange of communications.

As mentioned earlier, the (exclusive) frequency ranges for "non-public services" were omitted in Atlantic City (1947). On the basis of the preceding Regulatory Statute of Cairo (1938), it would - for instance - have been easier to interpret the IFV provision here under discussion: for the military radio stations would have been required to use the frequency ranges provided for them. In this connection, it would have been irrelevant which type of radio service (fixed or mobile service, orientation radio service, etc.) was to be carried out.

The IFV provision here under consideration, however, must be interpreted in an entirely different way with respect to the VO Funk of Atlantic City. Now the military radio stations are required - the same way as commercial radio stations, and in cooperation with the latter - to use those frequency ranges (and types of transmission) provided for the respective radio service by the VO Funk, without any differentiation between commercial and military service.

It is obvious that this elimination of frequency ranges for "non-public" services really constitutes a measure of considerable importance for military radio stations. For this measure puts them on an equal footing with commercial radio stations, so that they will use the same (or adjoining) channels as those assigned to commercial radio stations. Thus, the military radio stations - in the same manner as the commercial radio stations - will operate in the range of mobile services, whenever they engage in a mobile service, and in the range of fixed radio services, whenever they engage in a fixed service, and so on.

The aforementioned obligations - in accordance with the wording of the major term - apply, of course, only "as far as possible."

3. Under the third paragraph of Article 48, the military radio stations are required to observe - "in general" - the provisions of VO Funk, whenever they participate in the public communications service or in "other services regulated by the ... Regulatory Statutes."

The fact that military radio stations, whenever they participate in the public service, are bound to observe the VO Funk provisions seems to be a matter of course, for the reason that - in such

instances - they occupy a position as communications partner equal to that of the commercial radio stations, and also because otherwise any participation in public communications would be impossible for technical reasons.

The participation in "other services regulated by the ... Regulatory Statutes", however, seems questionable. As mentioned previously, VO Funk does not differentiate between public and non-public services. It seems doubtful, therefore, whether - for instance - the provisions concerning the orientation radio service (Nos. 1016-1024), concerning experimental radio stations (Nos. 1008-1015), and concerning special radio services (Nos. 1034-1054 a) are, "in general", applicable to military radio stations. It seems doubtful, for instance, whether military radio stations are subject to the provision contained in No. 1049, according to which all radio stations of the ship radio service are required to observe radio silence whenever weather reports destined for all ship radio stations are transmitted.

On the basis of the regulation that, "in general," said provisions must be observed, it may be concluded that - as far as these dubious cases are concerned - military radio stations are required to observe the VO Funk provisions to the extent that it is necessary for operational reasons and does not seem to be detrimental to the tasks of the military radio station. It will, in this connection, be unavoidable to accept the fact that the application of the provisions will be determined by a certain freedom of judgment on the part of the military radio stations themselves.

In summary, it can be stated that the wording of Article 48 leaves wide room for interpretation. If strictly interpreted, one would - in practice - be compelled to consider the majority of the VO Funk provisions as being also binding for military radio stations. If interpreted less rigidly, the absolute freedom of military radio stations would be restricted only by their being bound, in accordance with the judgment of the radio stations, by the VO Funk.

It, therefore, remains to be clarified whether any reasons - and if so, which - exist for either a strict or a broad interpretation. In this connection, the question will not here be examined whether the provisions of the IFV and the VO Funk retain their validity in case of war, and between which of the contracting parties - belligerents and non-belligerents - such validity would be maintained [12]. Said question has been examined by competent parties [13]. Besides, it is to be assumed that said question has only theoretical significance as far as present-day international usage is concerned. The opinions will, rather be based upon peace-

time conditions which must be considered as the normally prevailing conditions and which, actually, have been so designated by international decrees.

It ought to be mentioned in this connection that military forces in the sovereign territory of another nation (during peace time) cannot automatically claim the rights outlined in Article 48 of the IFV. The provisions of the IFV are binding with respect to the mutual relationship among the contracting governments; i.e., they expound international law. The legal position of foreign radio stations within the sovereign territory of another (sovereign) state is determined on the basis of the domestic law of said state, in conjunction with special agreements concluded between the respective governments [14].

IV. Conclusions

As far as the conclusions are concerned, which are reached on the basis of this analysis, the following points are of significance:

1. the fact that the wording of Article 48, especially the first paragraph, dealing with the determination of the "absolute freedom" of military radio stations, has remained essentially unchanged since the 1906 Conference, although the other provisions of the Agreement and of the Regulatory Statutes take fully into account the greatly changed circumstances; and

2. the assumption that it was primarily immunity from the communicating duty which, in 1906, led to the stipulation of absolute freedom for military radio stations.

Thus, Article 48 - by retaining the original wording in spite of a completely changed situation - has assumed a significance which, undoubtedly, could not have been intended at the time its wording was originally determined. Due to the lack of sufficient documentation, it cannot be ascertained whether or not the resolving body - the pertinent government conference of the UIT - was aware of this change in significance. It must be decided accordingly whether a strict or broad interpretation of Article 48 is called for. Article 48 ought to be strictly interpreted if the retention of its wording were due only to the mechanical inadequacy and to the concessive necessity of world-wide international conferences; it ought to be broadly interpreted if its wording had been retained in full recognition and awareness of the changed status of technique and operation.

The strict interpretation could be justified by the volume of modern international radio operations. In view of the extremely strong development, which the radio traffic has undergone - and is still undergoing - in every country of the globe, and because of the frontier-crossing effect of most electromagnetic radiation sources, we are approaching a state which can be described as follows: the multitude of radiation sources existing in all countries can only become effective through intergovernmental or international agreements without mutual influence (such as determination of frequency distance or geographical distance, or through time-sharing or directional radiation). This requires the closest international cooperation. Such collaboration makes it possible to keep in operation a well-balanced optimum system of radiation sources. Such an optimum system of electromagnetic radiation sources is roughly comparable to a mechanical system whose equilibrium is determined by a great number of parameters. If any one of these parameters deviates anywhere from the internationally agreed-upon theoretical value, the equilibrium of the entire system is, generally, disturbed. (It is unnecessary to point out that the transmitters here dealt with are only those which are effective beyond the confines of national boundaries, so that - physically - they are not limited to national territories.)

A disturbance of this nature is not only injurious to the one who is being disturbed, but - in practice - also works to the detriment of the disturber. For, now, the uncoordinated countermeasures of the one who is being disturbed constitute, in their own right, a source of disturbance. This is the reason why, for instance, regional frequency plans for certain radio services are, in general, also observed by those countries which - by not signing the regional agreement - have expressed their dissatisfaction with the respective frequency arrangement. The aforementioned retroaction upon the one who disturbs the international equilibrium generally results in a de facto agreement - even in cases where no de jure agreement has been reached.

As far as is presently known, no analogy exists to this international interlacing of radio services and the ensuing necessity of international coordination. It is possible that the application of nuclear fission processes - in view of the likelihood of frontier-crossing effects - will result in a similar requirement for international cooperation.

Since it is irrelevant for the maintenance of the aforementioned optimum system of radio transmitting stations whether they are subjected to interference either by a military or by a commercial radio station, it is beyond any doubt that only a strict

interpretation of Article 48 does justice to modern radio operations in normal times (i.e., in times of peace). Such a strict interpretation implies, as explained earlier, the practically unlimited application of the VO Funk [15].

The international provisions of the IFV and of the VO Funk for commercial radio services have been continuously adapted to technical progress and to the expansion of radio traffic; they already make it possible for all the radio stations in the world to operate side by side without any disturbances. If a number of radio stations deviate from these regulations, this world-wide side-by-side operation of radio services is disturbed. In this connection, it is obviously irrelevant which category of radio stations (the military stations, for instance) causes this disturbance through non-observance of existing international regulations. If a certain category of radio stations is exempted from this international regulation, this may result in making this regulation ineffectual for all radio stations.

The provisions relating to military radio stations have, obviously, not been subject to this constant adaptation to the status of technology and operation. It is beyond any doubt that the first paragraph of Article 48 is incompatible with the aforementioned requirements for an undisturbed side-by-side operation of all radio services.

The provisions of VO Funk - except for the introductory definitions of terminology - can be classified in two groups [16]:

1. Provisions which serve, either directly or indirectly, to avoid or reduce interference, or which - in case of interference - contribute towards elimination of the disturbance (side-by-side operation of radio stations);

2. Provisions which technically and operationally regulate the international traffic, including emergency communications (cooperation among radio stations).

On the basis of the views expressed earlier, the undisturbed side-by-side operation of all radio services requires, without exception, that the provisions contained in the first group of VO Funk stipulations be observed. In addition, the provisions contained in the second group must be observed whenever radio stations participate in international traffic (including emergency communications). These views are contradicted by the unequivocal stipulation of the "absolute freedom" of military radio stations, as contained in the first paragraph of Article 48. The second and third

paragraphs of Article 48 would coincide with the aforementioned views if - by deleting the words "if possible" in the second paragraph and the words "in general" in the third paragraph - the element of discretion would be eliminated. In that case, however, it would no longer be necessary to stipulate special provisions for military radio stations, since - in such case - their position would, anyhow, be equal to that of commercial radio stations. This would also eliminate the contradiction between Article 45 and Article 48 of the IFV, since Article 45 is binding for all radio stations, "irrespective of their intended use." Only Article 19 would then have to be altered in such a way as to assure that - through elimination of the last half sentence of the first paragraph of Article 19 ("exempted are such services as, on the basis of the provisions of Article 48, are not subject to these obligations") - the international regulation would remain valid for military radio stations as well.

In contrast to these views, according to which the military radio stations ought to be assigned a position equal to that of all other radio stations, it is - on the other hand - necessary to take into account the special needs of a military (peace-time) radio operation. These special needs comprise, for instance, radio services for regular and irregular exercises during training and maneuvers, as well as all kinds of tests and experiments which may make it impossible - or, at least, difficult - to observe the international regulations. The military radio services promote the national defense, as is also expressed in the heading of Article 48. In view of this supreme goal of national defense, the requirement of "absolute freedom" for military radio stations becomes understandable. The national defense - to a larger extent than practically any other function of the state - is based upon the unqualified sovereignty of the state. This is in accordance with the preamble to the IFV [17], which establishes the "unqualified right of any country to regulate its telecommunications system." The state must exercise this unqualified right primarily for those measures which serve the national defense.

In the light of these deliberations, the "absolute freedom" of military radio stations does not only seem justified but even necessary. This might lead to the conclusion that the government conference of the UIT was fully aware of the change in the meaning of words, which Article 48 had undergone, and that, therefore, a broad interpretation of Article 48 would seem applicable.

In this connection, it has been assumed that the voluntary limitation of sovereign rights, brought about by joining in an international agreement, is not compatible with the fundamental right of

the state to carry out its national defense. We will have to leave it to the expert in international law to ascertain the accuracy of this assumption, whereby it ought to be taken into consideration that it is even possible to speak of an international martial law [18], if states - by voluntarily joining in respective agreements - restrict their rights to a certain extent, even in case of war. We will only deal with the practical question as to whether it is possible - and compatible with concepts of sovereignty - to impose restrictions upon military radio stations, without noticeably impairing the effectiveness of national defense. For it has been shown earlier that the present status of radio technology and of the international radio network make it seem urgently desirable to impose such restrictions upon military radio stations in the interest of all nations.

Such a possibility must, actually, be affirmed. To begin with, the VO Funk - in No. 88 [19] - accords the states a certain freedom to deviate from the VO Funk provisions under certain conditions. In addition, the establishment of certain frequency ranges for "non-public services" - such as they existed once before [20] - would probably afford a much wider latitude to the military radio stations within the framework of the IFV and the VO Funk - at least in times of peace, which are the only periods here dealt with. It may be assumed that the establishment of such exclusive frequency ranges - in conjunction with provision No. 88 of VO Funk - would enable the military radio services to carry out their tasks of national defense - in times of peace - without any noticeable impairment. For it would be possible to accord certain rights to the military radio stations within these exclusive military ranges, to the extent that this would not work in any way to the detriment of the effectiveness of other radio services. Beyond the aforementioned contingency, every country - according to the preamble to the IFV - has the possibility to allocate to its military radio services any other desired frequencies whose peace-time utilization, however, would be subject to the same international provisions as the commercial radio services.

The VO Funk, concluded in Cairo in 1938, provided for certain frequency ranges for "non-public services" and, thereby, gave the military radio stations a sphere of the radio spectrum - in the form of several partial spheres - for their exclusive use. Such an arrangement - adapted to the present as well as the foreseeable future status of technology and operation in a revised version of the Regulatory Radio Statutes - might possibly constitute the prerequisite for a revision of the wording of Article 48 and might eliminate the doubts arising in interpreting the present wording. This way, it should become possible to include the military radio

services in a clear international regulation which, on one hand, would take into account the justifiable interests of national defense and, on the other hand, would assure the undisturbed operation of an international radio system.

FOOTNOTES

1) cf. BGB[1] [Buergerliches Gesetzbuch; Civil Code] II, page 9 ff., dated 2 February 1955.

2) Paragraph 1 of Article 45 reads as follows:

> "All radio stations - independent of their intended use - must be built and operated in such a way that they will not cause any harmful interference with respect to the radio connections or radio services of the other Ordinary or Extraordinary Members, of the recognized private operating companies, and of other operating companies which are properly authorized to engage in a radio service and which are operating their service in accordance with the regulations of the pertinent Regulatory Statutes."

3) Paragraph 1 of Article 19 reads as follows:

> "The Ordinary and Extraordinary Members are obliged to observe the conditions of this agreement - as well as the Regulatory Statutes pertaining thereto - with respect to all telecommunication offices and service stations, either built or operated by them, which take care of international operations or which might cause harmful interference with the radio service of other countries; exempt are those services which, on the basis of Article 48 of this agreement, are not subject to the aforementioned obligations."

4) H. Thurn, "The International Regulation of Radio Telegraph and Telephony (International Radio Agreement, Washington, 1927)", Springer, Berlin, 1929, page 2 ff.

5) H. Thurn, above reference, page 4 ff.; also cf. J. Stewart, "The International Regulation of Radio in Time of Peace," Supplement to Vol. CXLII of the Annals of the American Academy of Political and Social Science, page 78 ff., Philadelphia, 1928, and H. Bredow, "In the Grip of the Etheral Waves," Vol. I, Mundus Publishing House, Stuttgart, 1954, page 105 ff.

6) This duty is formulated as follows in Article 44, paragraph 1, of the IFV: "The radio stations of the mobile service, without regard to the type of radio installation utilized, are required to partake in the mutual exchange of radio messages within the framework of their usual operation." In the course of the

preliminary conference, the following wording was agreed upon: "The coastal stations are required to receive and send telegrams from or to ships at sea, irrespective of the wireless telegraph systems employed by said ships" (Article I, paragraph 2).

7) Government Printing Office, Berlin, 1231.08; cf. W.F. Studer, "Fiftieth Anniversary of the First International Radio Communication Conference," Journal UIT, No. 9 (1956), page 206.

8) H. Thurn, aforementioned reference, page 31.

9) Proceedings of the Sixth Plenary Session in "Record of the International Radio Telegraphy Conference in London," Bern, 1913, page 421 ff.

10) Article 46 reads as follows: "Distress calls and emergency reports - The radio stations are required to receive with unconditional preference distress calls and emergency reports - irrespective of their place of origin - as well as to reply to such reports with equal preference and, thereupon, to cause the necessary steps to be taken."

11) For reasons of clarity, only the Numbers of the VO Funk (leaving out Chapters and Articles) are listed here and in subsequent references.

12) As far as the question of the validity of the IFV for belligerents is concerned, one of the few existing references in the documents of the 1927 Washington Conference, Vol. II, pages 467-468, is contained in the statements of the U.S. delegate, with reference to Article 21 of the Washington Agreement: " ... Besides, it is the purpose of the conference to establish a private or commercial agreement. The question of sovereignty in matters of interference has, thereby, been settled. This represented a difficult subject, since it is possible for so many nations to have absolute freedom and, nevertheless, not be be completely protected by Article 21."

13) The first examination of this question, known to us, which was obviously brought about by the utilization of radio telegraphy during the Russian-Japanese war, is contained in F. Scholz, "Wireless Telegraphy and Neutrality," F. Vahlen Publishing House, Berlin, 1905, i.e. only a few years after the technical application of wireless telegraphy!

14) cf. Schuster/Pressler: "The Position of Foreign Radio Stations within the Sovereign Territory of another Country, as based upon the International Telecommunications Agreement," Jahrb. f. intern.

Recht [International Law Almanac] 6 (1956), Goettingen, 1956.

15) This view is confirmed by certain references in the records of the Washington Conference ("Records of the International Radio-Electric Conference, held in Washington in 1927", UIT, Bern, 1928). Volume I of these records, for instance, contains the following note by British India (No. 169, page 59) with regard to Article 21 of the London Agreement:

> "All radio-electric stations are to be subject to the Agreement and Regulatory Statutes concluded at said Conference, with respect to technical equipment as well as the duty to avoid interference."

A British proposition (No. 234, page 91) wants to eliminate "military radio stations" in the terminology of the Regulatory Statutes, with the following reasoning:

> "The military services, as defined in this paragraph, are not considered susceptible to international regulation. Military installations - to the extent that they fall into the sphere of the international agreement - are required to operate in conformity with those provisions of the agreement which are applicable to the type of service they engage in. Military installations engaged in mobile service, for instance, would utilize waves comprised in the bands generally allocated to mobile services."

Furthermore, the following reasons are offered for a British proposal (No.358, page 133):

> "It is not proposed to allocate special bands to military stations as such. Of course, these stations - the same way as all other government stations - will observe those provisions of the Regulatory Statutes which are applicable to the type of service they are engaged in, just as they will continue to be subject to the provisions of Article 21 of the Agreement."

Finally, the following reasons are given for a Japanese suggestion (No. 361, page 133) concerning Article 5 of the Regulatory Statutes:

> "In view of the fact that the military services are not subject to any restriction as far as the utilization of waves is concerned - which results in disturbances of

the communications network - it seems advisable to subject these services to the same restrictions as those pertaining to other services."

16) The fact that the provisions of Chapter IX (Article 21: "Radio Secrecy") and of Chapter X (Article 22: "Licensing") of the VO Funk cannot be assigned to either one of these two groups is due to the reason that - according to their nature - these provisions do not belong in the VO Funk, but in the IFV instead. The principle of "Telecommunications Secrecy" was regulated, anyway, in Article 22 of the IFV; it would, therefore, seem appropriate to regulate "Radio Secrecy" as well within the framework of the IFV. The provisions concerning the licensing of radio stations are also part of the sovereign obligations of the contracting parties, which are regulated in the IFV itself.

17) The preamble reads as follows:

> "In full recognition of the unqualified right of any country to regulate its telecommunications system, the delegates of the contracting governments have - in mutual understanding - concluded this agreement, in order to improve the relations among nations by means of a good telecommunications service."

18) cf., for instance, the Hague Conference (1907), the Geneva Convention (1864), and others.

19) No. 88 of the VO Funk reads as follows:

> "A member nation of the confederation may allocate to a radio station a frequency, which deviates from the distribution system for frequency ranges and from the other provisions of these Regulatory Statutes, only if expressly provided that it may not result in any harmful disturbances of the service engaged in by other radio stations, if said stations operate in accordance with the provisions of the Agreement and of these Regulatory Statutes."

20) For lack of an internationally agreed-upon definition of the term "non-public services", not only military radio stations were operated within these ranges for "non-public services", but also police stations, government stations, private stations, and the like. The records of the Atlantic City Conference do not contain any reasons for the elimination of these

frequency ranges. The records of the Washington Conference, however, contain certain significant references in the reasons given by several countries for submitting propositions regarding the frequency ranges for non-public services, which are meant to replace former ranges reserved for military services (cf. also Footnote 15).